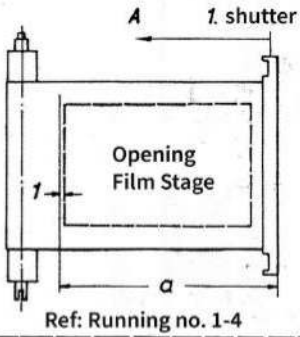
Changes made Edixa Reflex and Edixa-mat Reflex

Sheet no 1:

Order	Sequence nb.	Modification
2/54	76251 – 76500	
11/54	76501 – 77750	Installation of the long times 1/10 - 1sec.
11/54	77751 – 78250	
12/54	78501 – 81500	
13/54	83251 – 88000	
14/54	100901 – 105900	
17/55	106901 – 107500	
17/55	107501 – 111900	Installation of the new shutter axis 1000.14 (coupled slot)
18/55	111901 – 116900	Start of installation of internal shutter release for semi-automatic lenses.
24/56	150401 – 155400	Start of the shutter blocking
25/56	155401 – 160400	
13/57	169301 – 174300	
14/57	175301 – 178800	Installation of the interchangeable frame
14/57	178801 – 180300	Modification of the shutter cocking
17/57	164301 – 169300	Modification of the shutter cocking
24/57	186551 – 191300	
4/58	196301 – 201300	
5/58	201301 – 206300	
2/59	214801 – 219800	
3/59	219801 – 224800	
16/59	231781 – 233780	
16/59	233781 – 236780	Transitional solution from uncoupled shutter release, Change of escapement
17/59	236781 – 239280	
		Edixa-mat Reflex
1/60	239281 – 241381	
	251001 – 252000	
1/60	252000 – 253500	Modification of the shutter (slot is formed immediately)
5/60	256001 – 261000	
12/60	261001 – 266000	
16/60	266001 – 273000	
20/60	273001 – 276000	
20/60	276001 – 278000	Relocation of the X-contact to the shutter axis, pre-assembled 1010.18 U1
2/61	279501 – 284500	
9/61	297751 – 302750	Change of shutter sequence (slit runs off coupled)
14/61	312001	Linear time series for all models
15/61	320001	Delay of shutter release
5/62	326001	Stop on 1st drive wheel shaft
11/63	485375	New shutter release from 495 001 usable for Enna - Automatic - socket

Adjustment instructions for EDIXA-REFLEX and EDIXA-mat REFLEX

Sq. Nb.	Camera No	X-contact ϟ A	M-contact Q	Contact	Use of
1	Edixa-Reflex 76 751 – 107 500	0 ÷ 1	37÷39	M	PF 1; PF 5; PF 1/97; PF 1 BB = 1/25 or X 1/10 PF 24 = 1/25 – 1/250 PF 45 = 1/25 – 1/250 PF 60 = 1/25 – 1/1000 XM 1; XM 1 BS; XM 5 = 1/25 or X 1/10
2	Edixa-Reflex 107 501 – 160 400 169 301 – 174 300	0 ÷ 1	37÷39	M	PF 1; PF 5; PF 1/97; PF 1 BB = 1/25 or X 1/10 PF 24 = 1/25 – 1/100 PF 45 = 1/25 – 1/250 PF 60 = 1/25 – 1/500 XM 1; XM 1 BS; XM 5 = 1/25 or X 1/10
3	Edixa Reflex 164 301 – 169 300 175 301 – 178 800 178 801 – 180 300 186 551 – 233 780	0 ÷ 1	19÷21	M	PF 1; PF 5; PF 1/97; PF 1 BB = 1/25 or X 1/10 XM 1; XM 1 BS; XM 5 = 1/25 or X 1/10 With this synchronisation (M- contact 19-21) it is not possible to use the special slit shutter lamps. However, the synchronisation can be readjusted as described under 2. This means that all lamps can be used as described under 2.
4	Edixa-Reflex 233 781 – 239 280 Edixa-MAT Reflex 239 281 – 276 000	0 ÷ 1	37÷39	M Q	PF 1; PF 5; PF 1/97; PF 1 BB = 1/25 – 1/50 PF 24 = 1/25 – 1/100 PF 45 = 1/25 – 1/100 PF 60 = 1/25 – 1/100 XM 1; XM 1 BS; XM 5 = 1/25 – 1/50 Westinghouse Nr. 5 = 1/25 – 1/250 " Nr. 6 = 1/25 – 1/250 General-Electric AG 1 = 1/25 – 1/100
5	Edixa-MAT Reflex 276 001 – 312 000	see text for Sequence no. 5-	37÷39	Q	PF 1; PF 5; PF 1/97; PF 1 BB = 1/25 – 1/50 PF 24 = 1/25 – 1/100 PF 45 = 1/25 – 1/100 PF 60 = 1/25 – 1/100 XM 1; XM 1 BS; XM 5 = 1/25 – 1/50 Westinghouse Nr. 5 = 1/25 – 1/250 Nr. 6 = 1/25 – 1/250 General-Electric AG 1 = 1/25 – 1/100
6	Edixa-MAT Reflex u. sämtl. Modelle 312 001	Text as under 5 Shutter speed 1/30 1/60	37÷39	Q	Text as under 5



Ref: Running no. 1-4

Synchronisation for the flash contact is no longer on the first drive wheel shaft 1010.03 U 18, but on the shutter shaft, pre-assembled 1010.18 U
The contact is made 1-2mm from the right edge of the film stage when the 2nd shutter is running.

Ref: Running No 5 -

	List created 24162
	Last supplement
Sheet No	1

GEBR. WIRGIN
KAMERAWERK
WIESBADEN

WIRGIN KAMERAWERK-WIESBADEN	Repair instructions for EDIXA-REFLEX - Camera	Sheet Number 50

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General information

This manual is intended to provide repair shops with information on the repair of faults or damage, the replacement of spare parts and the assembly of repaired cameras of the models A, B, C, D, S and Flex, which are important for the proper mechanical condition of the camera.
This manual is not intended for persons who are to be trained to carry out repairs.

When carrying out repairs, the following points must be observed :

1. No force should be used when disassembling or assembling camera parts, as all parts can be easily loosened or inserted when carried out properly.

2. Ensure that the camera mechanism is clean. Dirty parts must be cleaned.

3. Oil and grease should be used very carefully and only in places where friction occurs, and only lubricants that are acid-free and do not dry out or resinify should be used.

4. All screws and parts that are secured by varnish, glue or punching must be secured again when reassembling.

5. When ordering individual parts, sub-assemblies or assemblies, the drawing numbers must be indicated. Individual parts of assemblies or subassemblies are included in the parts list.

Wiesbaden, 4.1.1960

Locking lever 1000. 05 - U 21

The locking lever, which is used by the mirror pull down lever to control the operation of the first roller blind a must be easy to move and screwed into the housing without vertical clearance.

Contact lever 1000. 05- U 19 and U 20

When screwing on the contact levers, make sure that the contact lever is screwed on with the shorter threaded bush in the housing at the bottom, which is due to the conical wall of the casting.

M X board and flash sockets 1000, 05. - U2

Before the M X board is screwed on through the flash sockets, the left leather part must be glued on. The contact springs of the contact levers are aligned with the nipples of the flash sockets.

Time setting lever 1000. 05- 98

For housings with long times 1/10 - 1 sec., the time setting lever must be screwed on easily and without vertical clearance.

Locking plate 1000.11, release catch and release button

The movement of the release button with the slide of the locking plate must be checked. The insert plate must be fixed in the housing before screwing on the release catch. The movement of the release catch must not be too light and the adjustment to the slide is made by bending up or together the slot bin the catch. In the open position, the slide must move freely past the catch, even with lateral pressure on the release button.

Time setting 1000.19 and safety axis S 581

a) For enclosures with long times, the set values of 1/10 to 1 sec. are transmitted through the time setting, from the cam of the right-hand cover cap to the time setting lever. The time setting must be smooth-running and have little vertical clearance,

b) For cases with short times 1/25 - 1/1000 sec. the safety axle is used. This has no function apart from holding the intermediate wheel 1000. 05- U 16.

Seq nb	Qty		Drawing number
1	1	Housing C riveted, model A,B, Flex, S	1000.05- U 1
2	1	" " " for advance unit model D	1002.01- U 1
3	1	" " " for exposure meter model C	1003.01- U 1
4	2	Belt eyelet	1000.05- 10
5	1	Threaded sleeve for cable release	1000.05- 8
6	1	Bearing bush for driving lever and brake lever	1000.05- 7
7	1	Rewind bushing Model A, B, Flex, S	1000.05- 6
8	1	" " " C	1003.01 -1
9	1	Locking lever, riveted	1000.05-U 21
10	1	Torsion spring for locking lever	1000.05- 147
11	1	Oval head screw	M 1,7 x 3/921
12	1	Contact lever, mounted with shorter threaded bush	1000.05- U 19
13	1	Contact lever "	1000.05- U 20
14	2	Countersunk screw for fixing contact lever	M 1,7 x 5/63
15	1	Plate for locking axle	1000.05- 83
16	3	Countersunk screw for locking axle	1000.05-133
17	1	Leather part, left	1000.-52
18	1	M X Platine	1000-05-128
19	2	Flash connector	1000.05- U 2
20	1	Cassette bearing	1000.05- 132
21	2	Countersunk head screw for cassette bearing	M 1,4x3/ 91
22	1	" " " " "	M 1,4x2/ 91
23	1	Time setting lever	1000.05- 98
24	1	Shoulder screw for time setting lever	1000.05-110
25	1	Torsion spring	1000.05-119
26	1	Locking plate, mounted	1000. 11
27	4	Countersunk screw for fastening the locking plate	1000.05-111
28	1	Release button	1000.05- 88
29	1	Pressure spring for release button	1000.05- 87
30	1	Washer 0.5 " "	1000.05.-126
31	1	Release lock	1000.05-129

Seq nb	Qty		Drawing number
32	1	Shoulder screw for release lock	1000.05- 130
33	1	Insert plate	1000.05- 131
34	1	Plate for transport axis	1000.05- 82
35	2	Countersunk screw for plate 05-82	1000.05- 111
36	1	Fixing plate for return spring of cocking lever	1000.05- 94
37	2	Countersunk screw for fixing plate	1000.05- 132
38	1	Time setting for model A,B,C,D,S	1000.19
39		Washer 0,1, 0,2 thick for time adjustment	1000.29
40	1	Locking axle for model Flex	S- 581

Transport drum, mounted 1000.16

When mounting the transport drum, make sure that the gear wheel meshes with the intermediate wheel 1000.05-U.16, that the axle is free of air and slippage, and that the perforation teeth are at the same height as the film guide of the film holder.
If the transport axle has too much vertical clearance, it can be eliminated by placing washers 1000.08-28 between plate 05-82 and washer 1000.09-22. If the transport drum is too high to perforate the film, place washers 1000.08-28 between the transport drum and the gearwheel attachment of the transport axle.

Lift axle, mount 1000. 17 (pre-assembly)

After screwing on the mounting flange, check that the outward stroke of the release slide is not limited by the locking lever, but only by the cast wall. If necessary, bend the nose of the slide.
The height air of the lift axle is regulated by bending the board 1000.05-108. The further assembly of the lift axle is done after the installation of the locking axle 1000.18.

Shutter axle, mounted 1000.18

The locking axle is fitted without the upper locking wheel and the vertical clearance is adjusted by placing U-washers 1000.08-28 between plate 1000.05-83 and the mounting flange. Ensure that the axle moves easily. The distance between the nose of the locking lever and the contact edge of the lower locking wheel is 1.1 mm.

To carry out this check, turn the lower shutter wheel clockwise as far as it will go and push in the release button. If the distance is smaller, the contact edge of the lower shutter wheel is
of the lower shutter wheel is filed down. At the same time, check the distance between the outer angle of the pawl in the lower locking wheel and the locking lever. The gap should be 0.1 mm (if the locking lever has not yet been changed in the adjustment slot). If the gap is larger, the angle of the pawl is bent outwards.
After the lower locking wheel has been turned anticlockwise as far as it will go, check that the changeover pin of the changeover knob passes the inner angle of the pawl freely.
Before putting on the upper locking wheel, the winding wheel 1000.17-U 5 is unscrewed. The lower locking wheel is turned clockwise as far as it will go and the upper locking wheel is turned in the same direction as far as the stop rivet in the lower locking wheel after it has been put on. Then the intermediate wheel 1000.17- U 4 is moved so that the driving rivet of the intermediate wheel lies on the line between the centre of the winding axis and the bearing bush. After screwing down the upper stop wheel and the intermediate wheel, check that the wheels move freely and that there is no vertical clearance.
When tightening the stop angle, make sure that the leg spring of the locking lever is not jammed between the angle and the cast wall. To check the function, turn the upper locking wheel towards the stop bracket. Lifting of the locking lever 1000.17- U 6 must begin approximately 2 mm before the square rivet hits the stop bracket.
If the lifting starts too early, the lever jumps over and blocks the winding of the gears.

Lift axle. mounted 1000.17 (finished assembly)

To insert the transport wheel 1000.17-U7, unscrew the intermediate wheel 1000.17-54. To check the function of the transport wheel, turn the upper locking wheel with the square rivet to the stop angle. In this position it must be possible to turn the transport wheel (turn the transport drum to the right.) If the upper locking wheel is turned clockwise to the stop, the transport wheel hits the locking lever with a stop rivet when the transport drum turns and is locked. In this position, when the intermediate wheel 1000.17-U 5 has been turned counter-clockwise to the stop, the driving flange can then be inserted with the winding lever screwed on. Make sure that the outer edge of the winding lever is in line with the front of the case.

Seq nb	Qty		Drawing number
61	1	Transport drum, mounted	1000. 16
62	1	Washer	1000.09-22
63	2	Slotted nut	1000.08- 26
64		Washer 0.1 0.2 0.3 thick	1000.08- 28
65	1	Lift shaft, mounted	1000. 17
66	1	Plate for winding axle	1000.05- 81
67	6	Countersunk screw for plate and mounting flange	1000.05-108
68	1	Locking axle, mounted Model A,B,C,D	1000.18
69	1	Locking axle, mounted Model S	S 613
70	1	" " " Flex model	S 580
71	1	Mounting flange	1000.08- 24
72	1	Control disc	1000.08- 25
73	2	Slotted nut	1000.08- 26
74		Washer 0.1 0.2 0.3 thick	1000.08- 28
75	2	Cheese head screw for control disc	M 1,4 x 1,7/84
76	1	Stop bracket	1000.05- 86
77	2	Countersunk screw for stop angle	1000.05-111
78	1	Spring for locking lever 1000.05- 12	1000.05- 85

Roller blind, mounted 1000.05- U 5 and U 10

After the roller blinds and the roller 1000.05- 91 have been inserted into the housing and the angle 1000.05- 135 has been screwed tight, the driving wheels of the driving wheel shafts are inserted into the locking wheels and the bearing bridge is screwed tight. The drive wheel of the 1st roller blind is inserted in such a way that the roller blind rod is 2-3 mm in front of the roller in the tensioned position of the locking axle. The roller rod of the 2nd roller blind should be 1/2 - 3/4 rod width behind the 1st roller rod.

After fixing the spring shafts, apply 7 turns of tension to the 1st spring shaft and 5-6 turns of tension to the 2nd spring shaft with the shutter on. Check the air gap and tightness of the pinion and spring shafts. Adjust the meshing of the drive wheels by straightening the bearing bracket.

The control of the rollo rods to the image section of the film stage is done with the shutter open (B). In this condition, the roller rods must be 2-3 mm outside the image section. If necessary, the drive wheel shafts are moved in mesh with the shutter wheels.

The covering of the 1st blind is checked by tensioning the blinds. The 1st roller blind should be pulled up 1/2 to 3/4 rod width more than the 2nd roller blind. Greater or lesser covering is achieved by gluing under or cutting out a small strip of cloth at the end of the 2nd roller blind on the drive wheel sill.
The slit width is checked after screwing on and setting the changeover knob to 1/1000 sec. For this purpose, the control disc is held in place when the shutter is released. The slit width should be 1 - 1.5 mm at the beginning of the picture. This slit width as well as its parallelism is achieved by repositioning the drive wheel shaft and pulling out the tapes.
The disengagement of the 2nd roller blind at 1/1000th sec. should take place when the 1st roller blind has run down to half of the 2nd roller blind. This check is carried out by holding and slowly easing the changeover knob when releasing the blinds. The coupling point is adjusted by bending the adjustment slot in the locking lever 1000.05-127 together or upwards. To do this, unscrew the stop bracket after the blinds have been half tensioned.

Before unclamping the spring shafts for even exposure of the picture, the locking lever 1000.05- U 21 to the locking wheel of the 1st drive wheel shaft is adjusted in such a way that the 1st drive wheel shaft has only slight return travel when clamped.

Mounting bracket, mounted 1000.05- U 22

With the fastening bracket it must be ensured that when tensioning the lift lever the ratchet does not engage until the ratchet lever 1000.05- U 21 has engaged in the ratchet wheel and the pawl 1000.10-27 has engaged in the transport wheel 1000.17- U 7. Adjustment is made by bending the angle and filing the last tooth of the driver flange.

Adjusting the M and X contact

The M- contact must be adjusted so that contact is made through the upper contact sleeve when the rollo rod of the 1st rollo is 18 or 19 mm from the left edge of the film stage cut-out. It must be ensured that the contact lever is lifted properly to the contact pin of the flash sleeve when the 1st drive wheel shaft runs down. If necessary, readjust the distance between the pin and the contact spring by bending the spring. However, the distance must not be too small so that contact is already made during tensioning (due to the momentum of the spring springing back).

With the X-contact, the intermediate sleeve must be adjusted in such a way that the contact is made through the lower contact sleeve when the 1st roller blind fully clears the image section in the film stage. As with the M-contact, care must be taken to ensure perfect contact. The brake spring 1000 .05- 115 must only slightly catch the lower contact sleeve, but must never obstruct the shutter movement.
It must also be ensured that the cam of the lower contact sleeve does not remain under the contact lever when the lock has run down and cause a permanent contact,

Brake lever 1000.05- U 13 and follower lever 1000.05 - U 23

The drive lever and the brake lever must be fitted to the bearing bush in such a way that both levers are easily movable with the least amount of vertical clearance. If necessary, bend the bracket on the drive lever so that the run-off surface of the brake lever engages freely between the slotted nuts and the sliding surface of the control disc.
On units without long times, the brake lever is omitted.

Seq nb	Qty		Drawing number
101	1	Roller blind w.drive wheel and spring shaft	1000.05- U 5
102	1	" " " " " "	1000.05- U 10
103	6	Set screws for 1. drive wheel shaft	M 1,4x2/ 553
104	2	Roller for 1st spring shaft	1000.05 - 89
105	1	Plate for spring shafts	1003.-01- 3
106	2	Countersunk screw for plate	1000.05- 111
107		For older models, the plate for spring shafts 1000.05-90 and 2 countersunk screws 1000.05-108 were used for models A,B and Flex.	
108	1	Roller for 1st blind	1000.05- 91
109	1	Angle for roller	1000.05- 135
110	1	Oval head screw for angle	1,4x2,5/ 91
111	1	Bearing blocks for drive wheel shafts	1000.05-92
112	1	Countersunk screw St. for lateral fastening of bearing blocks	1000.05-108
57	1	Countersunk screw Us. for bearing blocks	1000.05-108
114	1	Mounting bracket, mounted	1000.05- U 22
115	2	Countersunk screw St. for mounting bracket	1000.05- 132

	Qty		Drawing number
116	1	Brake spring for 1st drive wheel shaft	1000.05- 115
117	1	Cheese head screw for brake spring	1,7 x 2,5/ 84
118	1	Torsion spring for spring shafts	1000.05- 96
119	1	Screw for torsion spring	1000.05- 97
120	1	Brake lever gen.	1000.05- U 13
121	1	Bushing for brake lever	1000.05- 69
122	1	Tension spring for brake lever	1000.05- 103
123	1	Toggle lever gen.	1000.05- U 23
124	1	Torsion spring for brake lever	1000.05- 101
125	1	Cheese head screw	1000.05- 102

Mirror box, mounted 1000,96,1002.02 and 8 588

Insert mirror box into housing and check release point of mirror base, bend up or together adjustment slot of release lever in such a way that the mirror base is only released when the locking lever 1000.05- 127. has fully engaged in the lower locking wheel. The release point should also be adjusted in such a way that the release button can still be pushed through approximately 1 mm after release. If there is too little safety in the tensioning of the mirror base to engage the locking lever, the mirror winding lever is bent back at its end.

For housings with an internal camera side outlet, the 2nd diaphragm slider in front of the mirror base must be disengaged. If a readjustment is necessary, the angle of the intermediate lever, which rests against the locking lever, is bent. Before installing the mirror box for housings with advance mechanism, check that the release lever has some clearance to the locking lever with the mirror base tensioned. After inserting the mirror case, the shutter is released to B. The shutter must not be released when the shutter is released. When releasing the release button, the locking lever 1000.05- 127 must not move in the lower shutter wheel. If this is the case, the nose of the release slide must be slightly forward. If this is the case, the nose of the release slide must be bent slightly forwards. If the nose is bent too much, the release of the mirror base will be too late. If the release point is too early, the adjustment slot in the release lever will be bent together.

Right cover cap 1000.15

Before screwing on the right-hand cover cap, the return spring of the tension lever must be inserted. For this purpose, the cap is tensioned halfway and the winding lever is unscrewed from the driving flange.

When putting on the cover cap, make sure that the feeler lever of the time setting rests against the cam disc of the cover cap and is not jammed under it.
The nipple of the feeler lever must engage in the radius of the cam disc when the long-time setting lever is in the O position. Check that the time setting moves freely when set to 1 sec. If, with the shutter cocked, the feed drum is pressed to the left, the winding lever must and still have some air between the cover cap and the cocking lever.

Left cover cap 1000.-6, rewind axle and rewind knob

Make sure that the rewind axle engages in the retaining spring, that the rewind knob does not rub on the film spool disc and that the film spool disc does not move too easily.
On models C and D, the left cover cap is screwed on when the exposure meter or the advance mechanism is installed.

Film stage 1000.05- 106

The film support must be checked for plane-parallel position after screwing on the film stage. If necessary, straighten the film support strips.

Rear wall 1000.01

The rear panel must be easy to close after it has been fastened to the housing, and the slide must not move too heavily when it is locked. Make sure that a felt strip is glued to the hinge of the housing to prevent light from entering.

Sequence number	Nb of pieces		Drawing number
151	1	Mirror box, mounted Model B, C, S, Flex B and C	1000.06-
152	1	Mirror box, mounted Model D	1002. 02
153	1	Mirror box mounted model A, Flex A and C	S 588
154	3	Countersunk screws for fixing the mirror box	1000.05- 108
155	1	Torsion spring for mirror pull lever	1000.05- 141
156	1	Shoulder screw for torsion spring	1000.05- 117
157	2	Set screws for lateral fastening of the mirror box	M 2x4,5/ 553

Seq nb	Nb of pieces		Drawing number
158	1	right cover mounted Model A, B, C, D	1000.15
159	1	" " " Model Flex	S 589
160	1	" " " Model S	S 614
161	1	Return spring	1000.05- 95
162	3	raised countersunk head screws for cover cap	1,4 x 2,5/91
163	1	left cover cap for models A, B, S, Flex A and B	1000- 6
164	1	Rewind axle model A, B, S and Flex A, B	1000.05- 104
165	1	Retaining spring for rewind axle	1000.05- 105
166	1	Rewind knob for model A, B, D, S, Flex A, B	1000. -8
167	1	Washer for rewind knob S	S 596
168	1	Screw for rewind knob	2,6x 7,5/85
169	1	Film holder washer for model A, B, D, S, Flex A, B	1000- 1
170	1	Snap ring for film holder disc	1000- 7
171	1	Spring washer for film holder	1000-31
172	1	Washer for film holder	1000-32
173	3	Countersunk head screws for left cover cap	1,4x2,5/91
174	1	Film stage with housing cover	1000.05- 106
175	4	Countersunk screws for film stage	1000- 15
176	4	Washers for film stage (older versions only)	1000.05- 134
177	1	Back plate mounted	1000.01
178	1	Film pressure plate riveted	1000.01- U 1
179	1	Shaft for back wall	1000. - 17
180		Velvet ribbon	1000 - 36

Escapement 1000 - 07

Before fitting the escapement, the control disc is adjusted in such a way that the follower lever is only released shortly before the stop when the escapement is cocked.
The escapement is inserted with the breech cocked and the setting of 1 second and moved in such a way that the stop nipple is in the correct position when the breech is cocked, that the stop nipple is in contact with the brake lever at full travel of the escapement.

If the control disc does not release the brake lever when the shutter is released (the brake lever gets caught at the end of the control disc's run-off surface), the lever arm that rests against the stop nipple of the escapement must be bent outwards slightly and the escapement moved accordingly. If the adjustment of the escapement is not sufficient, the slot in the timing lever offers a further adjustment possibility.
When setting B, the brake lever must pass freely between the contact edge and the run-off surface of the control disc after the 1st roller blind is released.
of the control disc. With the same shutter setting, the brake lever must be fully in contact with the contact edge of the control disc when it is released by the follower lever during slow tensioning. If necessary, this function is achieved by adjusting the control disc.
The slow shutter speeds are checked at the 1/10 and 1 second setting. If these times are OK, the intermediate times will result. Readjustment is done by moving the escapement or by bending the time setting lever.
Make sure that the stop nipple of the escapement is not moved at short shutter speeds.

Base plate 1000.03 and S 597

After screwing on the base plate, the pressure pin must be easily movable and must not limit the stroke of the drive bushing (in the transport drum). It must also be ensured that when the pressure pin is pressed in, the drive bushing is lifted out of the shaft screw and thus releases the transport drum for rewinding the film. If the back plate should rub against the base plate, the fit of the base plate can be altered by gluing washers or spacers onto the cams of the housing casting. Check that the support moves freely after screwing on the stand nut.

Lens screw ring 1000 — 14

The dimension from the lens contact of the screw-on ring to the film support of the film stage is 45.5 - 0.02 mm. This dimension is achieved by placing distance segments between the front plate and the housing or mirror box. Make sure that the screw-on ring is plane-parallel to the film support of the film stage.

Ground glass lens 1000.- 53

Before adjusting the ground-glass lens, check the distance between the screw-on lens ring and the film stage and the mirror position of 45 degrees. The mirror position is controlled by the lens contact of the screw-on ring.
The setting of 45 degrees is achieved by bending the adjustment bar on the mirror base.

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The focusing screen is adjusted by placing distance frames underneath it. These frames must be adjusted in such a way that the image appears sharp on the focusing screen magnifier at a short distance (1 metre) and at infinity as well as on a focusing screen placed on the film support.

Seq nb	Nb of pieces		Drawing number
201	1	Escapement	1000. 07
202	2	Panhead screws for escapement	1,7 x 2,3/ 921
203		Washer 0,1 0,2 (b. older models to be placed under the escapement)	1000.05– 126
204	1	Base plate riveted for model A, B, C, D, S	1000. 03
205	1	" " " " Flex	S 597
206	1	Pressure pin	1000. 9
207	2	Countersunk screw for base plate	1,7 x 4/63
162	2	Oval head screws for base plate	1,4 x 2,5/ 91
209	1	Tripod nut for model A, B, C, D, S 1/4"	' 1000. 12
210	1	" " for model A, B, C, D, S 3/8"	' 1000. 63
211	1	" " for model Flex	S 587
212	1	Support for model A, B, C, D, S	1000 – 62
213	2	Leaf springs for support	1000 – 61
214	3	Countersunk screws for stand nut	1,7 x 5/ 63
215	1	Leather washer for tripod nut	1000 – 24
216	1	Lens screw ring	1000 – 14
217	1	Front plate (specify model for engraving!)	1000 – 13
218	1	Light protection frame	1000 – 33
219		Spacer 02, 05 0, 07 0, 1 0, 2	1000 – 30
220	3	Countersunk screws for screw-on ring	1000 – 57
221	1	Countersunk screws for screw-on ring for mirror box mounting	1000 – 58
222	1	Frosted glass	1000 – 53
223		Spacer frame 0,07 0,1 0,2 0,3	1000 – 27
224	1	Cheese head screw (to hold the spacer frame when changing the frosted glass)	1000 – 54
225	2	Leaf springs	1000 – 19
226	2	Retaining strips for leaf springs	1000 – 50
227	4	Countersunk screws for retaining bar	1000 – 28
228	1	Interchangeable frame, mounted	1000 – U 2
229	1	Meter ring for objective screw ring	1000 – 23
230	1	Leather part left	1000 – 51

Exposure Meter 2M/ W

Before screwing on the left cover cap, the light protection strip must be glued in at a right angle from the contact surface of the rewind bushing to the mirror box.
When inserting the light meter, make sure that the light meter housing is exposed and does not get jammed by the cover cap, the housing cut-out or by the rewind bushing.
Check the fit of the light meter cap. If necessary, straighten the cap.

Check that the rewind axle engages in the retaining spring with the lock washer in place. After screwing on the rewind knob, check that the axle moves freely and place a washer under it if the rewind knob rubs on the dial.

Fitting the leader _1002- 03

After the advance mechanism has been inserted into the housing with the locking screw and screwed tight in the film spool chamber, the long-time setting (L) is adjusted. For this purpose, the leader is tensioned to the stop and the time (9 seconds) from opening to closing of the shutter is measured. To do this, the rear lever on the mirror box must be pressed inwards by hand. This time is adjusted by bending up or down the adjustment slot in the gear lever of the advance mechanism. Once this setting is adjusted, the self-release (S) is checked. During this check, the overtravel of the leader from the release of the shutter until the release button pops out must be approximately 1/2 second. To do this, the front lever on the mirror box is pressed inwards by hand.

After putting on the cap, the index triangle on the winding disc is checked against the second digits and dashes on the cover cap. The permissible tolerance is one line width. If the tolerance is larger, the end stop of the advance movement is changed after removing the cap and the long time setting is readjusted. Check that the film spool and the rewind spindle move freely and that they engage in the retaining spring.

Seq nb	Nb of pieces		Drawing number
251	1	Exposure meter	2 M/ W1
252	1	Rewind axle	1003.01- 4
253	1	Retaining spring	1003. 01- 5
254	1	Light protection strip (without drawing number)	
255	1	Cover cap	1003- 1
256	2	Countersunk head screws for cover cap	1,4 x 2,5/91
257	2	Allen screws for light meter	1,4 x 3 / 84

Seq. nb.	Nb of pieces		Drawing number
258	1	Fitting the exposure meter cover	1003- U 2
259	3	Screw for " "	1003- 10
260	1	Lock washer	2,3/ 6799
261	1	Rewind knob	1003- 11
262		Washer 0,15 0,2 f. Rewind knob	1000.14- 25
263	1	Feed mechanism, mounted	1002- 03
264	1	Screw for lateral locking of the advance mechanism in the housing	1002- 01- 2
265	1	Cover cap	1002- 04
266	3	Raised countersunk head screw f. Cover cap	1,4 x 2,5/ 91
267	1	Set screw for locking the nut	1,4 x 2/ 553
268	1	Film washer	1000- 1
269	1	Snap ring for film adapter	1000- 7
270	1	Spring washer for film washer	1000- 31
271	1	Washer for film washer	1000- 32
272	1	Rewind knob	1000- 8
273	1	Screw for rewind knob	2,6 x 7,5/ 85
274		Washer for rewind knob	1000.14 - 25

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Seq. nb.	Nb of pieces		Drawing number
		Assembly	
177	1	Rear panel, assemble	1000.01
		Sub-assembly	
178	1	Film pressure plate with riveted leaf spring	1000.01- U 1
		Individual parts	
301	4	Rivet for holding the film pressure plate	1000.01- 7
302	1	Film slide roller	1000.01- 10
303	10	Countersunk rivet	1,4x1,7/ 661
304	2	Rivet for cap	1000.01-11
305	1	Slider	1000.01-12
306	1	Cap	1000.01-13
307	1	Cap leather	1000.01-14
308	1	Back leather	1000.01-15
309	2	Felt strip	1000.01-16
		Assembly	
321		Light well, assemble	1000- 02
		Sub-assembly	
322	1	Front viewfinder cap with detent lever	1000.02- U 2
323	1	Loupe carrier, mounted with lens and nipple	1000.02-U 3
424	1	Rear viewfinder cap with guide rivets	1000.02-U 4
		Individual parts	
325	1	Light shaft frame, lacquered	1000.02- 1
326	1	Spring for front viewfinder cap	1000.02- 14
327	1	Magnifier carrier	1000.02- 21
328	1	Viewfinder lens	1000.02- 23
329	1	Nipple	10001o2- 24
330	1	Axle for loupe carrier	1000.02- 17
331	1	Torsion spring for loupe carrier	1000.02- 16

Seq nb	Nb of pieces		Drawing number
332	2	Guide rivet	1000.02- 27
333	2	Torsion spring for caps	1000.02- 2
334	2	Axles for caps	1000.02- 28
335	1	Compression spring	1000.02- 3
336	1	Shoulder screw	1000.02- 4
337	1	Locking plate	1000.02.-5
338	1	Oval-head screw	M 1,4 x 2,5/91
		Assembly	
204	1	Base plate riveted for model A, B, D, C, S	1000- 03
		Individual parts	
351	1	Bush	1000.03- 3
352	3	Bush	1000.03- 4
353	1	Stiffening plate	1000.03- 12
		Model Flex A,B,C	
205	1	Base plate riveted	S 597
354	1	Stiffening plate	S 579
		Assembly	
101	1	1. Roller blind mounted Sub-assembly	1000.05- U 5
371	1	1. Drive wheel shaft mounted	1000.05- U 6
372	1	1. Spring shaft mounted	1000.05- U 7
373	1	1. Roller blind	1000.05- U 8
		Sub-assembly	
102	1	2. Roller blind mounted	1000.05- U 10
374	1	2. Drive wheel shaft	1000.05- U 11
375	1	2. Spring shaft	1000.05- U 12
376	1	2. Roller blind	1000.05- U 8
		Assembly	
120	1	Brake lever riveted	1000.05- U 13

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Seq. nb	Nb of pieces		Drawing number
391	1	Spring rivet	1000.05- 67
392	1	Spring	1000.05- 68
393	1	Bush	1000.05- 69
		Assembly	
12	1	Contact lever, mounted	1000.05- U 19
		Sub-assembly	
401	1	Contact lever, riveted	1000.05- U 4
		Individual parts	
402	1	Threaded bush	1000.05- 25
403	1	Torsion spring	1000.05- 24
405	1	Cheese head screw	1000.05- 27
		Assembly	
13	1	Contact lever, mounted	1000.05- U 20
		Sub-assembly	
406	1	Contact lever, riveted	1000.05- U 4
407	1	Threaded bush	1000.05- 26
408	1	Torsion spring	1000.05- 24
409	1	Cheese head screw	1000.05- 27
		Assembly	
114	1	Mounting bracket, assembled	1000.05- U 22
		Individual parts	
421	1	Mounting bracket	1000.05- 121
422	1	Ratchet	1000.05- 122
423	1	Shoulder screw	1000.05- 123
424	1	Tension spring	1000.05- 124

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Seq. nb	Nb of pieces		Drawing number
		Assembly	
123	1	Fogging lever, riveted	1000.05- U 23
		Individual parts	
431	1	Bushing	1000.05- 136
		Sub-assembly	
151	1	Mirror box, mounted Model B, C, S, Flex B, C	1000.06
		Sub-assembly	
451	1	Mirror base, mounted	1000.06-U 1
452	1	Tooth segment, mounted	1000.06- U 2
453	1	Cover frame, glued	1000.06- U 3
454	1	Locking lever, riveted	1000.06- U 4
455	1	Mirror box, riveted	1000.06- U 5
456	1	Mirror pull lever, riveted	1000.06- U 6
		Individual parts	
457	1	Protective strip for mirror base	1000.06- 2
458	1	Mirror	1000.06- 3
459	1	Driver rivet for toothed rivet	1000.06- 7
460	1	Foam rubber strip for cover frame	1000.06- 32
461	1	Threaded bush for detent lever	1000.06- 14
462	1	Rivet for locking lever	1000.06- 15
463	1	Rivet for mirror bottom stop	1000.06- 26
464	2	Bushes for slider	1000.06- 27
465	1	Rivet for ground glass break-out	1000.06- 33
466	1	Pin for mirror lift lever	1000.06- 36
467	1	Torsion fender for mirror base, left	1000.06- 17
468	1	" " " " right	1000.06- 18
469	1	Cover plate for mirror base	1000.06- 19
470	3	Countersunk screws for cover plate	M 1,2 x 2 / 63
471	1	Release lever	1000.06- 40
472	2	Shoulder screws (intermediate lever, leg spring)	1000.06- 22

Seq. nb	Nb of pieces		Drawing number
473	1	Torsion spring for detent lever	1000.06- 23
474	2	Compression springs for indexing pins	1000.05- 107
475	2	Knobs for latching pins	1000.05- 72
476	1	Side plate	1000.06- 25
477	4	Oval head screws	M 1,7 x 3/ 921
478	1	Intermediate lever	1000.06- 29
479	1	Slider	1000.06- 30
480	1	Pressure spring for slider	1000.06- 31
481	2	Taper head screws for cover frame	1000.06- 34
482	1	Screw for lift lever and release lever	1000.06- 38
483	1	Bushing for lift lever and release lever	1000.06- 37
484	1	Light protection bracket	1000.06- 39
485	1	Cover plate	1000.06- 41
486	2	Oval-head screws for cover plate	M 1,7 x 2/ 920
487	1	Locking pin, left	1000.06- 52
488	1	and right	1000.06- 43
227	3	Countersunk screw for light protection bracket and cover plate	1000. - 28
490	1	Cheese-head screw	1000.06- 24
		Model A, Flex A, C	
		Assembly	
153	1	Mirror box, mounted	S 588
		Sub-assembly	
511	1	Mirror box, riveted with rivets	S 582
		Model D	
		Sub-assembly	
152	1	Mirror box, assembled	1002-02
		Sub-assembly	
512	1	Mirror box, riveted	1002.02- U 1
513	1	Bearing bracket, riveted (for 2 levers)	1002..02- U 4
514	1	" " " (for 1 lever)	1002-02- U 5

Seq. nb	Nb of pieces		Drawing number
515	1	Locking lever, disassembled	1oo2.o2 - U 6
516	1	Bearing bracket, mounted (with 2 levers)	1oo2.o2- U 8
517	1	Bearing bracket, mounted (with 1 lever)	1oo2.o2- U 9
		Single parts	
518	1	Shift lever f.1002.02-U4	1oo2.o2- 9
519	1	Segment lever " " "	1oo2.o2- 1o
52o	2	Spring bolts " "	1oo2.o2- 17
521	1	Torsion spring for segment lever	1oo2.o2-11
522	1	" " " Shift lever	1oo2.o2- 12
523	1	Shift lever for 1002.02- U5	1oo2.o2- 15
524	1	Spring screw for " ' "	1oo2.o2- 17
525	1	Torsion spring " " a P	1oo2.o2- 16
526	4	Countersunk screws " " -U4 and U5	1ooo-o5- 132
527	1	Cheese head screw (stop)	M 1,7x2,5/84
528	1	Shoulder screw for 1002.02- 7	1ooo-o6- 35
529	1	Lever for 1002-02- U 6	1oo2.o2- 6
53o	1	Torsion spring for 1002.02-6	1oo2.o2- 7
531	1	Oval head screw " " U 6	M 1,7 x 3/921
		Assembly	
26	1	Locking plate, mounted	1ooo. 11
		Individual parts	
551	1	Bearing bush for intermediate wheel	1ooo.11- 2
552	1	Release slide	1ooo.11-3
553	1	Bushing for transport axle	1ooo.-11- 6
554	1	Bearing bush for locking axle	1ooo.11- 7
555	1	Stop rivet	1ooo.11- 8
		Assembly	
61	1	Transport drum, mounted	1ooo. 16
		Sub-assembly	
571	1	Transport axle, formerly ,m.gear wheel	1ooo.16 - U 1
572	1	Transport drum, pre-assembled	1ooo.09- U 2

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Seq. nb	Nb of pieces		Drawing number
		Individual parts	
573	1	Transport drum	1000.09- 6
574	1	Pressure spring	1000.09- 7
575	1	Driving bush	1000.09- 8
576	1	Cheese head screw	1000.09- 9
577	1	Shaft screw	1000.09- 23
		Assembly	
65	1	Lift shaft, mounted	1000.17
		Sub-assembly	
591	1	Axle, pre-assembled with gear	1000.17- U 1
592	1	Take-up spool	1000.10- U 2
593	1	Winding lever, riveted	1000.10- U 4
594	1	Mounting flange, riveted	1000.17- U 3
595	1	Intermediate wheel, riveted	1000.17- U 4
596	1	Winding wheel, riveted	1000.17- U 5
597	1	Locking lever, riveted	1000.17- U 6
598	1	Transport wheel, riveted	1000.17- U 7
599	1	Lift flange, mounted	1000.17- U 9
		Individual parts	
600	1	Lift lever	1000.10- 11
601	1	Knurled knob	1000.10- 12
602	1	Protective leather	1000.10- 13
603	1	Driving rivet for intermediate wheel	1000.17- 22
604	1	Rivet for intermediate wheel	1000.17- 23
605	1	Drive rivet for winding wheel, riveted	1000.17- 27
606	1	Spring rivet for locking lever	1000.17- 32
607	2	Stop rivet for transport wheel	1000.17- 23
608	1	Leaf spring for lift flange	1000.10- 21
609	1	Half-round rivet for lift flange	0,8x12/ 660
610	1	Lift pawl " " "	1000.10- 18
611	1	Attachment rivet " " "	1000.17- Ø46
612	1	Attachment pin " "	1000.17- 47

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Seq. nb	Nb of pieces		Drawing number
613	1	Locking lever for	1000.05- 127
614	1	Pawl	1000.10- 27
615	2	Spring bolts (pawl, riveted / pawl 05- 127)	1000. 17- 51
616	1	Screw for pawl 10-28	1000.17- 58
617	1	Intermediate bush for winding wheel, riveted 17-U5	1000.17- 52
618	1	Intermediate bush for intermediate wheel 17-54	1000.17- 53
619	1	Intermediate wheel	1000.17- 54
620	2	Screws	1000.17- 55
621	1	Spring	1000.17- 56
622	2	Countersunk screws for winding lever, riveted	1000.05- 132
623	1	Nut for winding lever	1000.10- 39
624	1	Counting disc	1000.10- 31
625	1	End screw	1000.10- 36
626	1	Shoulder washer	1000.10- 45
627	1	Pressure spring	1000.10- 42
628	1	Snap ring	1000.10- 43
629	1	Shoulder washer	1000.10- 41
630	1	Spring washer, between winding axle and mounting flange	1000.17- 59
631	1	Spring washer	1000.10- 38
		Assembly	
68	1	Shutter axle, mounted	1000.18
		Subassemblies	
651	1	Changeover knob with pin	1000.18- U 1
652	1	Locking axle, pre-assembled with lower shutter wheel	1000.14- U 1
653	1	Upper shutter wheel	1000.14- U 3
		Individual parts	
654	1	Latch for lower shutter wheel	1000.14- 2
655	1	Torsion spring for lower shutter wheel	1000.14- 3
656	1	Stop rivet for lower shutter wheel	1000.14- 5
657	1	Driving rivet for lower shutter wheel	1000.14- 6

Seq. nb	Nb of pieces		Drawing number
658	2	Attachment rivet for lower shutter wheel	1000.14- 7
659	1	Stop rivet for upper shutter wheel	1000.08- 7
660	1	Drive rivet for upper shutter wheel	1000.08- 8
661	1	Cheese head screw	M 1,7 x 2,5/84
662	1	Pressure spring	1000.08- 22
663	1	Index plate	1000.18- 2
664	2	Countersunk screws for index disc	M 1,2 x 4/63
665	1	U-washer for upper shutter wheel	1000.14- 25
		Model S	
69	1	Shutter shaft, mounted	S 613
666	1	Changeover knob with pin	S 612
667	1	Upper shutter wheel riveted	S 616
		Model Flex	
70	1	Locking axle, mounted	S 580
668	1	Changeover knob with pin	S 584
		Assembly	
38	1	Time setting for model A, B, C, D, S	1000.19
		Individual parts	
681	1	Spacer sleeve	1000.12- 6
682	1	Transmission lever	1000.12- 7
683	1	Oval-head screw	M 1,7 x 3/ 921
		Assembly	
40	1	Shutter shaft, mounted	S 581
		Individual parts	
684	1	Spacer sleeve	1000.12- 6
685	1	Washer (0.8 thick MS)	1000.-29
686	1	Oval head screw	M 1,7 x 3/ 921
		Assembly	
228	1	Change frame mounted	1000- U 2

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Seq. nb	Nb of pieces		Drawing number
		Subgroup	
701	1	Right leaf spring, riveted	1000- U 5
702	1	Left leaf spring, riveted	1000. U 6
		Single parts	
703	2	Rivets for leaf spring	1000.- 38
704	1	Frame	1000- 41
705	4	Attachment rivets	1000- 44
706	2	Half-round rivets	1,4 x 1,7/ 650
707	2	Springs	1000- 45
		Model C Assembly	
258	1	Cover cap, light meter, mounted	1003- U 4
		Individual parts	
721	1	Cover cap, light meter,	1003- 2
722	1	Spring washer	1003-3
723	1	Time setting ring engraved	1003-12
724	1	Mounting ring	1003-5
725	1	Dial, film speed	1003- 6
726	1	Dial, aperture values	1003- 7
727	1	Rivet for scale disc	1003-8
728	1	Screw, chrome-plated	1003-9
729	2	Screws, blue	1003-10
		Model D Assembly	
263	1	Advance mechanism	1002- 03
		Individual parts	
741	1	Winding disc	1002-03- 29
742	2	Countersunk screws for winding disc	M 1,7 x 2,5/ 63
743	1	Nut for fastening the film memory disc	1002-03- 30

Seq. nb	Nb of pieces		Drawing number
744	1	Gear lever	1oo2- o3- 31
745	1	Shoulder screw for gear lever	1oo2.o3- 32
746	1	Rewind axle	1oo2.o3- 33
747	1	Slotted nut	1oo2.o3- 34
748	1	Trunnion screw for locking	M 1,4x 3/ 927
		Prism finder, mounted 1050 Sub-assembly	
761	1	Spring, glued	1o5o- U 1
		Individual parts	
762	1	Prism frame with or without connecting ring for eyecup	1o5o- 1
763	1	Eyepiece lens	1o5o- 2
764	1	Clamp for eyepiece lens	1o5o- 4
765	2	Cheese head screw for clamp	1,4 x 3/ 84
766	1	Penta prism	1o5o- 5
767	1	Prism cap	1o5o- 7
768	6	Oval head screw for prism cap	1o5o- 8
769	1	Protective ring for connection ring	1o5o- 11

DISMANTLING THE COVER CAP AND BASE PLATE:
Unscrew the end screw, counter, pull off the tension lever and dismantle the operating button. Then unscrew the rewind knob, loosen the three grub screws of the index disc and pull off the disc. Unscrew the DIN washer, paying attention to the washers.
Now unscrew the end screw of the adjusting knob and pull the knob off the axle. When the two pan-head screws on the right and left side of the cover cap have been unscrewed, the cover cap can be lifted off. The prism, which is now exposed, only needs to be taken out.

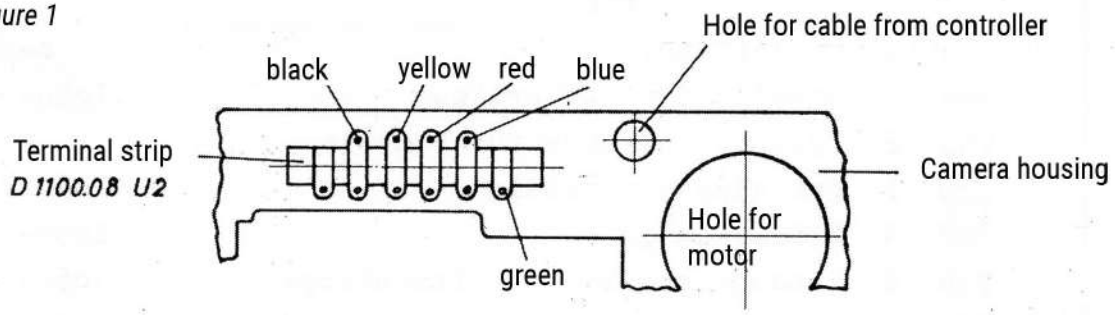
BOTTOM PLATE:
Pull out the axle from the battery cassette cover, lift off the cover, Then unscrew the two countersunk screws on the bottom of the battery cassette and take out the cassette. The cables of the controller are wired to the terminal strip that is now visible.

INSTALLATION AND REMOVAL OF THE REGULATOR :
Installation : The controller is placed on the camera housing via the lift shaft, making sure that the controller cables are fed through the hole provided in the housing into the lower part of the housing. The regulator is now screwed to the housing with three cylinder head screws, and the slider is also fastened to the slider piece of the regulator with two countersunk screws.

Now solder the cables of the controller in the lower part of the housing to the terminal strip as shown in the drawing.

PARTIAL VIEW OF THE LOWER PART OF THE HOUSING

Figure 1



The cables must be laid in such a way that no cable can be crushed or disconnected when installing the battery cassette. Dismantling the controller is done in reverse order.

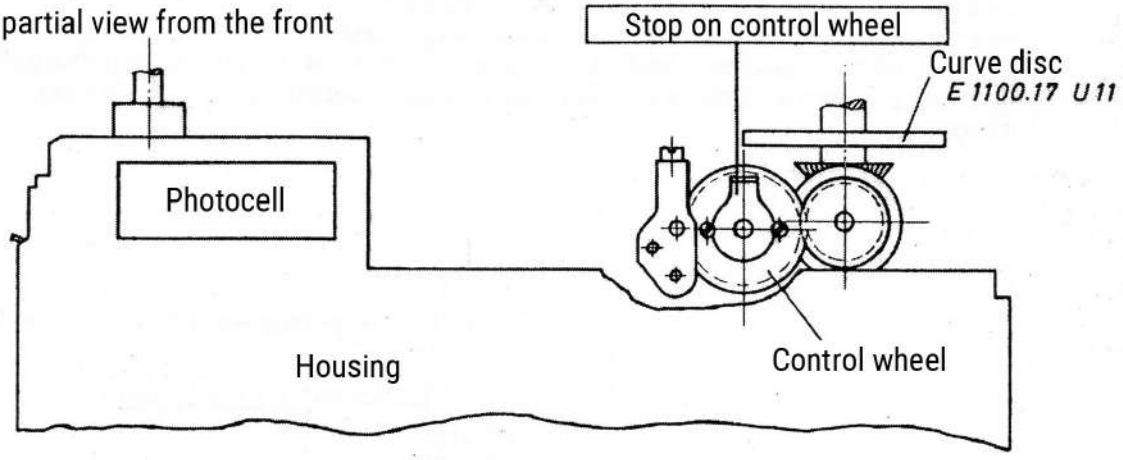
SETTING THE REGULATOR FOR CLOSURE:
Unscrew the cover of the controller and screw the operating button back on.
Dismantle the cam disc (remove the snap ring, spring and washer), then pull off the cam disc. The slider must be easy to push against the spring force and must spring back without getting stuck.

Now push the slider in the direction of the regulator and press the control button. Now the shutter must run at 1/500 sec. and aperture 22 - 22 500.

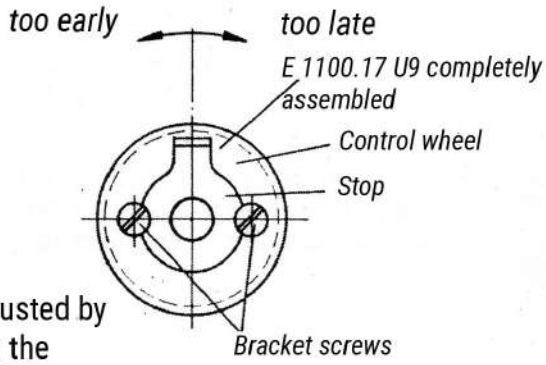
If the shutter does not run to this position (wants to continue running or stops before), the stop on the control wheel (see drawing) must be moved.

Figure 2

Camera partial view from the front

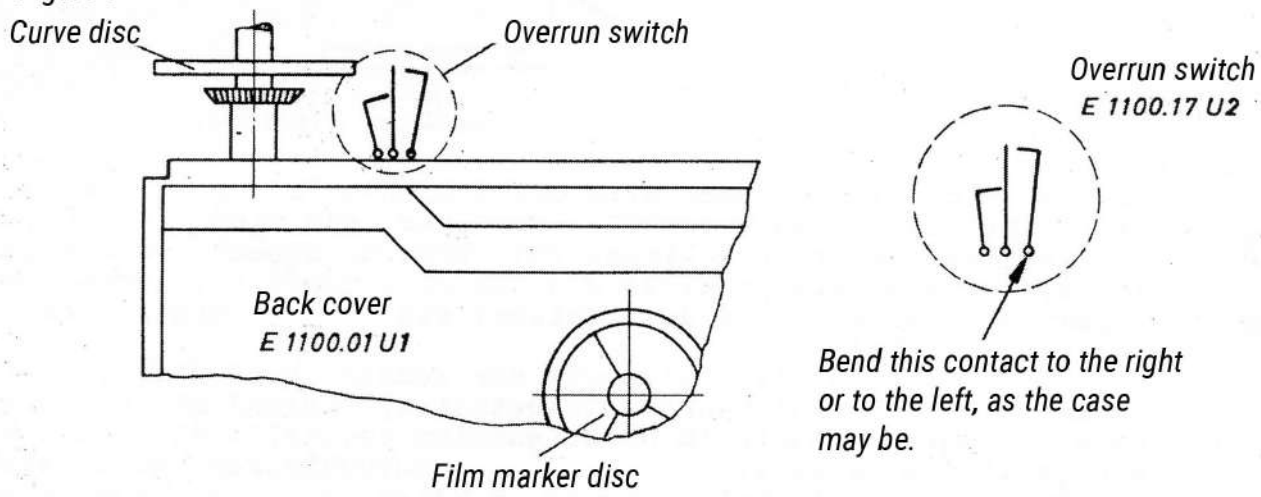


Loosen the two retaining screws, move the stop and retighten the screws, move the stop to the right if the shutter moves too far, to the left if it stops too early. When the control button is released, the shutter must move back one digit. 22
500



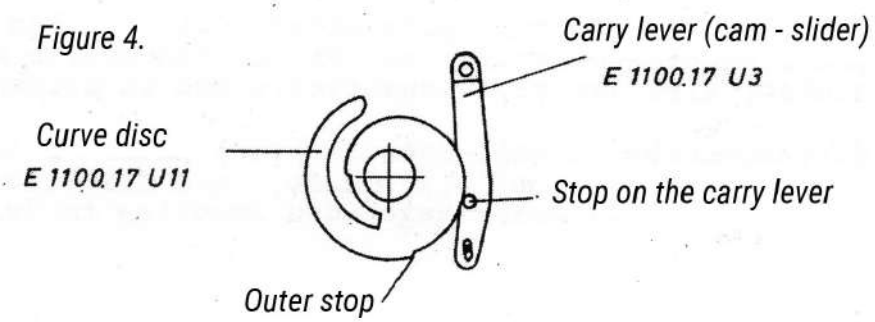
If the position is not quite right, the overrun switch is adjusted by bending one contact forwards or backwards as shown in the drawing.

Figure 3


Curve disc
Overrun switch
Back cover
E 1100.01 U1
Film marker disc
Overrun switch
E 1100.17 U2
Bend this contact to the right or to the left, as the case may be.

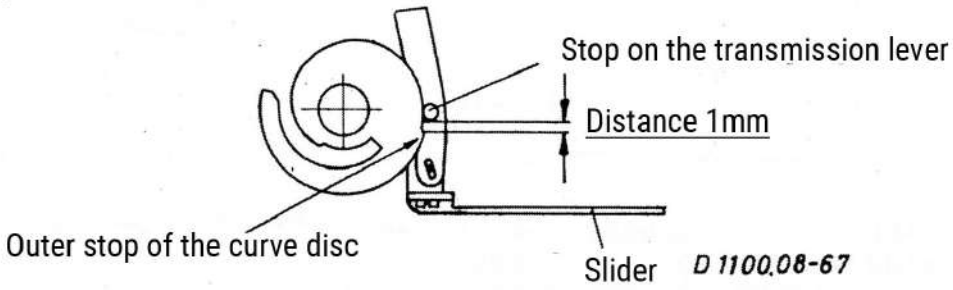
To the left, the shutter moves back a bit more, to the right less. Now put the curve disc back on and adjust it approximately as shown in the drawing.

Figure 4.



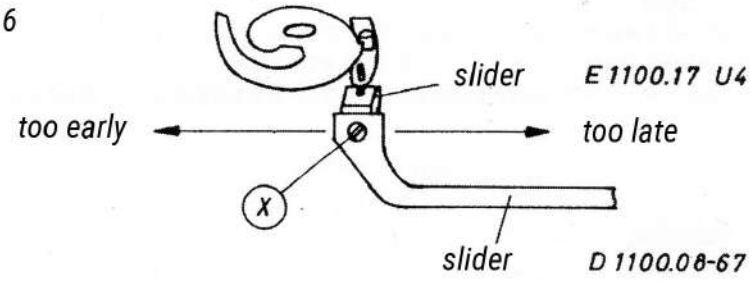
Now the photocell must be darkened with a felt strip or opaque material so that the pointer of the exposure meter (meter pointer) swings to the zero point. When the pointer is balanced there, press the control button. Now the curve disc must move and the stop of the transmission lever of the curve slider must stop 1 mm before the outer stop of the curve disc.

Figure 5



If the stop on the transmission lever stops too early before the outer stop of the curve disc, or if it runs through too far, this is readjusted as shown in the drawing below.

Figure 6



If it stops too early, loosen screw "X" and move the slider slightly to the left, (then tighten the screw well again) If the distance of the stop from the transmission lever to the stop on the curve disc is less than 1 mm or if the curve disc even runs further, move the slider slightly to the right (towards the controller).

Once this is set, the photocell is darkened with the right hand and the control button is pressed, while the curve disc is adjusted clockwise with the left hand. The curve must now run back the adjusted distance and stop as shown in drawing no. 5, i.e. the outer stop of the curve disc must stop about 1 mm before the stop on the transmission lever.

The cam is now adjusted clockwise, i.e. to the right, until the shutter (without the lens screwed on) stops at "B" and aperture "2.8" or "1 sec." and aperture "1.9".

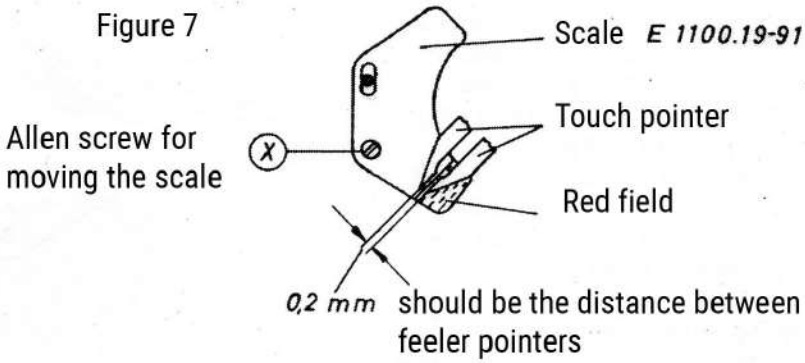
2,8 1,9
B 1

In this position, the camera motor must not run any more, even if the control button is pressed, and the curve disc must be in the zero position, i.e. as described above and shown in drawing no. 5.
If the curve disc is moved too far to the right, so that the shutter is set to "B" and aperture "1.9", the shutter may become unusable, as the motor works against the stop in the shutter.

The cam disc is now correctly adjusted and must not be adjusted again. If the photocell is now darkened and the control button is pressed, the shutter must run to some average value corresponding to the lighting conditions.

You can check this by darkening the photocell again and pressing the control button. If the shutter is now set to "1 sec." and aperture "1.9" or to "B" and aperture "2.8", the shutter speed is set correctly. Now unscrew the control button, remove the controller cover and screw the button back on, darken the photocell and wait until the pointer of the exposure meter has balanced out, then press the control button. The two feeler pointers must now converge except for a small gap (0.2mm). The straight edge of the red field on the scale must be exactly in the middle of this gap. If this is not the case, the scale can be moved by loosening the cylinder head screw ("X").

Figure 7



After this adjustment, screw the controller cover back on and finish mounting the camera, making sure that the curve disc is no longer adjusted.
For the camera to work properly and for the light value to be determined accurately, the controller must be in good condition.

1.) Probe pointers must be well fitted and must be able to be moved by the force of the pointer spring without getting stuck.

2.) The spring force of the pointer spring must press the contact points of the pointers against the contact nipple of the follower lever and against the U-shaped end of the light meter pointer.

3.) The sliding contacts 1 and 2 must rest lightly and without pressure against the running surfaces of the hands.

4.) All contact points must be brightly polished and without an oxidation layer so that good current transmission can take place.

5.) The follower lever must be able to be moved quickly, but must not have too much play.

6.) When the two feeler pointers are fully open, contacts 3 and 4 must be in contact with the pointer ends with some tension.

Figure 8.

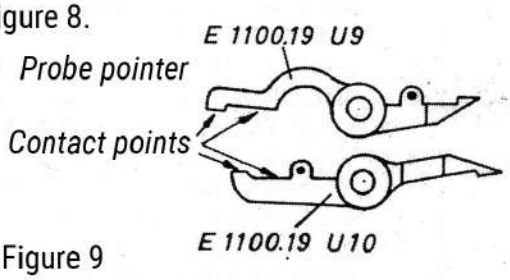
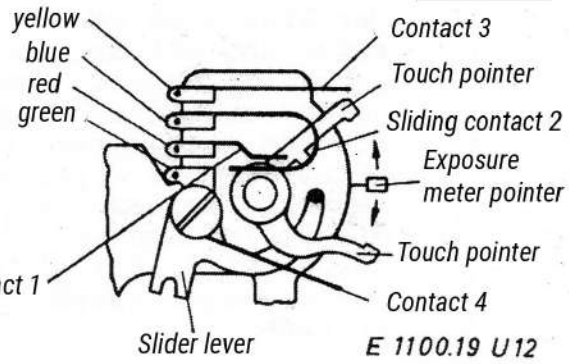
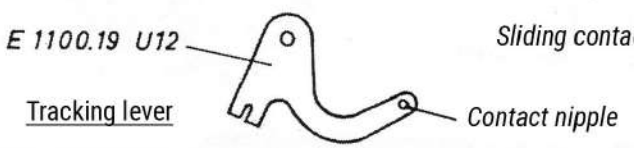


Figure 9

Diagram of bridge 110019 U6 completely assembled





7.) Lever "A" must not have any play in its bearing, otherwise the levers cannot engage and jump over each other.

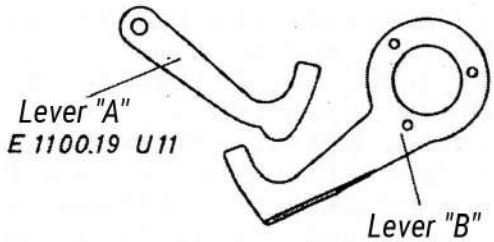


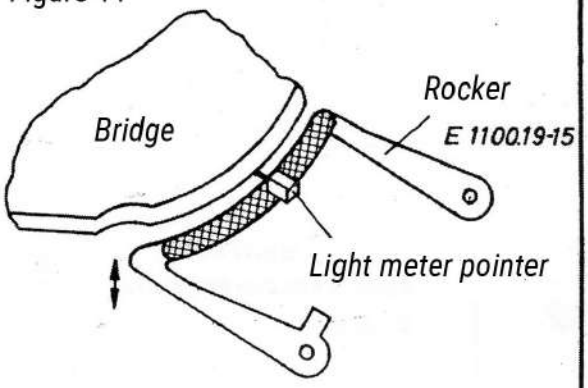
Figure 10

8.) Pressing the operating button releases the rocker and presses the light meter pointer against the contact surface of the bridge. The surface of the rocker must be parallel to the contact surface of the bridge so that the light meter pointer is pressed equally firmly at every point on the bridge.

The exposure meter pointer must be pressed firmly against the bridge before the feeler pointer touches the exposure meter pointer, i.e. if the feeler pointer is 3mn in front of the exposure meter pointer, the latter must already be firm, otherwise there is a danger that the feeler pointer may move the exposure meter pointer before it is properly fixed and thus faulty readings would result.

When the operation button is released, the rocker releases the light meter pointer.

Figure 11



9.) The adjustment of rocker 4 is carried out simultaneously with the correct adjustment of levers "A" and "B". Unscrew the operating button, loosen the three countersunk screws in the ring below and remove the ring. Now the driver plate becomes visible. The stop of the rocker engages in the slot provided for it in the drive plate. The drive plate can be moved through the slotted holes, changing the height position of the rocker.

The ring is put back on and the three countersunk screws are slightly tightened so that the drive plate can still be moved. Now the rocker must be adjusted so that when the operating button is released, the rocker just releases the light meter pointer.

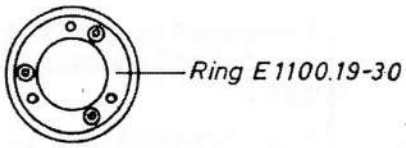
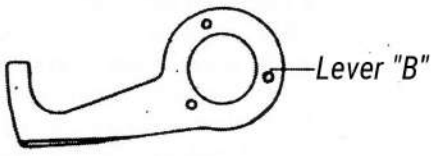
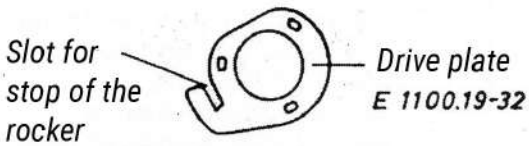
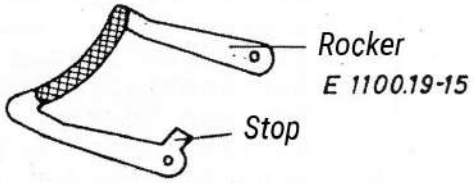
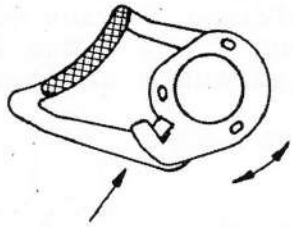


Figure 12

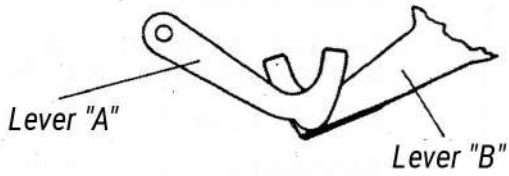








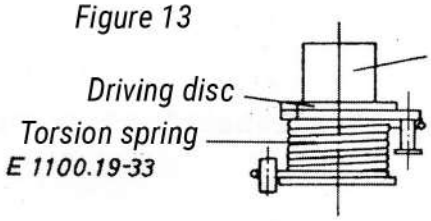
When the operation button is pressed, the rocker must have clamped the light meter pointer before the feeler pointer has touched the light meter pointer, i.e. when the feeler pointer is still 3 mm away from the light meter pointer, the latter must already be fixed.

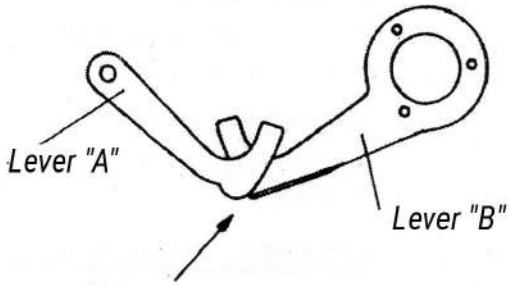


Lever "B" can be adjusted like the driving plate when the ring is loosened a little. Levers "A" and "B" must be in the pressed position as shown in the illustration (above).

10.) The torsion spring must have enough force to push the hands apart as far as they will go via levers "A" and "B".

Figure 13





Lever "B" not adjusted correctly

ERRORS AND THEIR CAUSES

1.) Camera does not run despite pressing the control button. Batteries are oxidised, have no contact with each other or with the contact springs of the battery cassette.
Cable disconnected or torn off during repair. Contacts of the feeler pointer or contact nipple of the follower lever are oxidised.

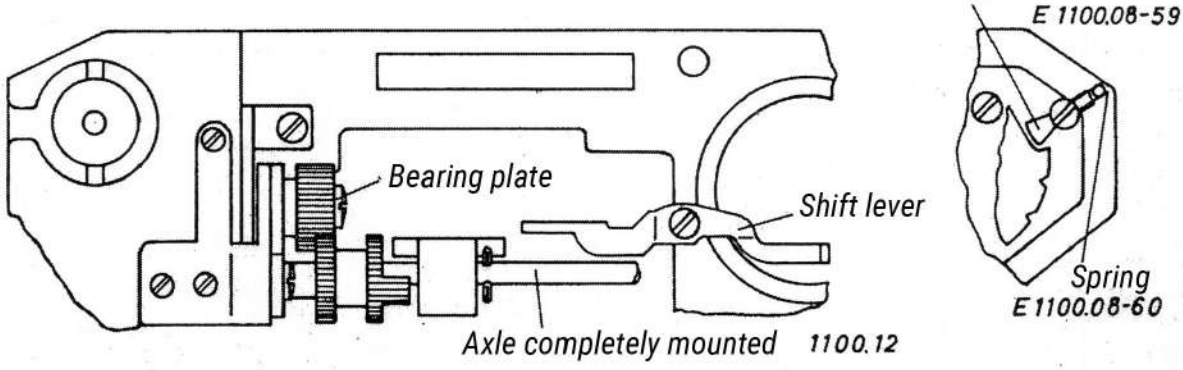
2.) Probe hands do not converge. The coils of the pointer spring have shifted over each other, the spring loses force and the pointers get stuck.
Contacts are oxidised or sliding contacts do not touch the feeler hands in some places.
Levers "A" and "B" have jumped over each other and are blocking the hands.

3.) Exposure meter pointer no longer deflects. Measuring mechanism blocked by dust particles. Regulator must be sent in.

FRONT PANEL, REMOVAL AND INSTALLATION

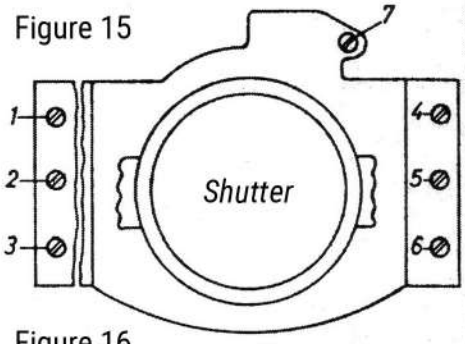
Remove cover cap and base plate, unscrew switch lever.

Figure 14 *View of the housing from below*



Set the shutter to 1/500 sec. and aperture 22. Loosen the right and left leathers on the front of the camera and unscrew the six countersunk screws. Loosen screw "7", see drawing. Now carefully remove the front plate, taking care that the shims on the two support surfaces in the housing do not fall out.

Figure 15



Loosen the fixing screw from the bearing plate and disengage the gear wheels 1+2. Front plate with shutter position 1/500 sec. and aperture 22 and tighten, set gearwheel 1 in the direction of the arrow to the stop and tighten with

Figure 16

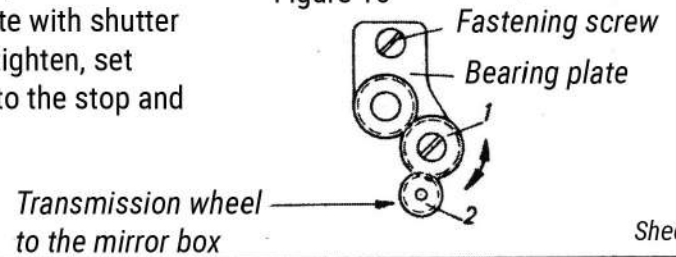
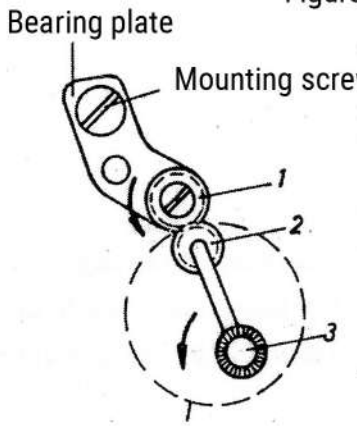


Figure 17.



Transmission on the front plate

Re-engage gearwheel 2. Slowly wind up the camera. The mirror must click into place just before the backstop has jumped over. (If the backstop has jumped over, the mirror must have just engaged).

The mirror must not come against the bottom plate when wound up. This means that when the winding lever is wound up to the stop, it must still have some way to go to the bottom plate. Otherwise the 45 degree position of the mirror would be misaligned. If the shutter does not open far enough, disengage gears 1 and 2 and give the shutter 1-2 teeth of pre-tension, i.e. wind the shutter 1-2 teeth on gear 3 in the direction of the arrow and re-engage gears 1 and 2 as described above. If the moment when the mirror clicks coincides with the backstop, check the setting from the regulator to the shutter and finish mounting the camera.

Cassette bearing

The cassette bearing **a** is only available in the new version. However, it can also be fitted to older models. The cassette bearing is glued in place and locked with a pan-head screw **b**.

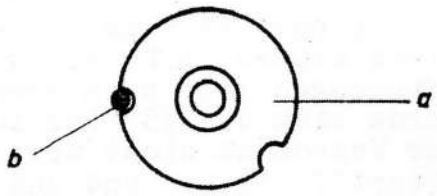


Illustration 1

Company plate

The company plate 205 is available in 2 versions:
- for gluing on no. 1000-56
- for screwing on No. 1030-59

The camera number must be stated, as unnumbered company plates will not be supplied.

Transport drum
Sheet 1

Transport drum

When ordering transport axles 229 or transport drums 230, only the new versions are available. They can be fitted to older models without further ado.

Please note that the mounting flange **a** has to be filed so that the transport axle **b** is not blocked.

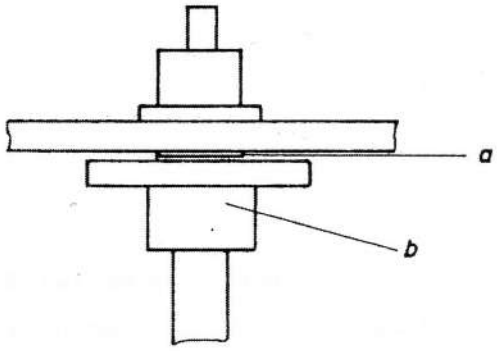


Figure 1

The pressure pin for rewind 202 must be shortened by 2.2 mm. For the new transport axle, the lock washer 237 is omitted. For the old transport drum, the following are still available: drive bushing 235, pressure spring 234, shaft screw 236 and lock washer 237.

Exposure meter
Forward movement
Sheet 1

Exposure meter , model C / C-L

The lock washer **a** is replaced by the groove nut b. The groove nut has the advantage over the lock washer that it no longer presses over the rewind axle 266. The new rewind knob Fig. 2 must be fitted to this slotted nut or the old one must be retightened to 3.5 mm. See figure 2.

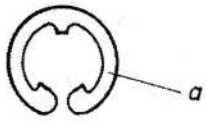
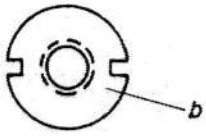


Figure 1



The slotted nut is screwed onto the rewind knob, but must not rub on the end nut **c** of the light meter cover cap when the rewind axle is engaged. When this adjustment has been observed, tighten the rewind knob firmly and hold the groove nut **b** in place. See figure 2.

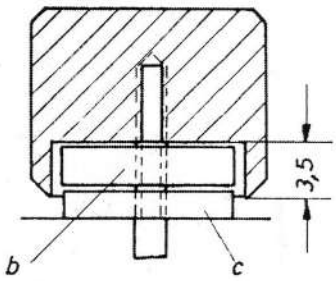


Figure 2

Mounting the advance mechanism, model D / D-L

Insert the leader 276 into the housing and tighten it in the film spool chamber with slotted nut 280. When adjusting the long time setting, tension the leader as far as it will go. Check the time from opening to closing the shutter (9 sec.), pressing the segment lever **b** in the direction of the mirror box. (Figure 3)

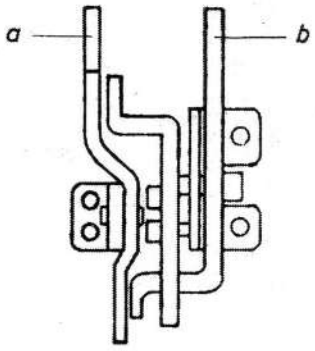


Figure 3

Exposure meter
Self timer
Sheet 2

This time is set by bending the adjustment slot **a** in the lever of the self timer unit up or down.

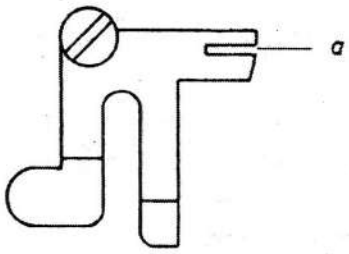


Figure 4

Self-timer setting S. With this control the overrun of the self timer from the release of the shutter until the release button 308 pops out must be approx. 1/2 second. To do this, press the lever **a** in the direction of the mirror box. (Figure 3)

If the light protection cloth (Figure 5) is missing on a camera, it must be glued in place to prevent light from entering the camera. The two flaps **a** of the light protection cloth must be glued to the mirror box.

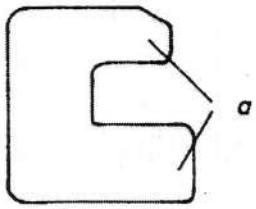


Figure 5

Mirror box with separate aperture release

Separate aperture release means that the aperture slider (figure 4 **b**) and the shutter release are released independently of each other. This allows the use of the fully automatic Enna interchangeable base as well as semi-automatic lenses.

The adjustment or control is carried out as described. The aperture slider (Figure 4 b) is released. The mirror base **b** must still be held by the release lever **a** and must still rest on the mirror base **b** with half the width of the material.

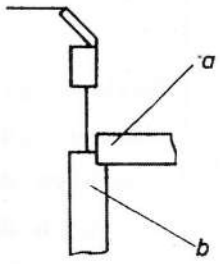


Figure 1

Lock the intermediate lever **c** in hole **g**. By bending the intermediate lever **c**, the support at **a** changes. Make sure that the locking lever **d** does not jump out under tension. If necessary, bend the angle of the intermediate lever **e** slightly backwards. Bend forward if release is too hard. Grease the functional points between **d** and **e**.

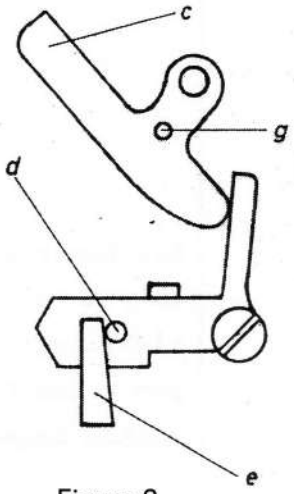


Figure 2

Screw in the shaft screw **f** until the detent lever **d** drops in properly. Secure the shaft screw with varnish.

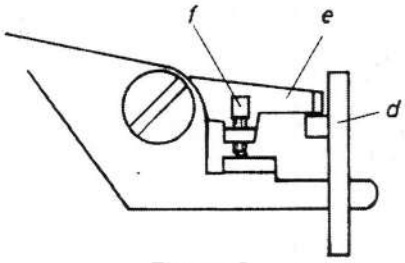


Figure 3

Mirror box
Sheet 2

To check the aperture slider, the dimension must be 8.9 mm (+0.2mm) from the contact surface of the screw-on ring **a** and the aperture slider **b**. To be checked in cocked shutter winding position.

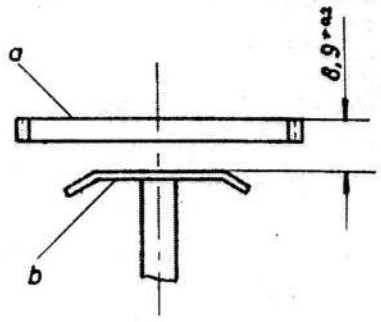


Figure 4

If the mirror does not return completely to its original position after release and the torsion spring shown in figure 5 is missing, it must be fitted. The leg spring must engage in the tension lever **b** of the mirror box and push it forward. For cameras without the recess in the tensioning lever **b**, the spring must be fitted under the locking fork **c**, bending the locking fork **c** up slightly to ensure proper operation.

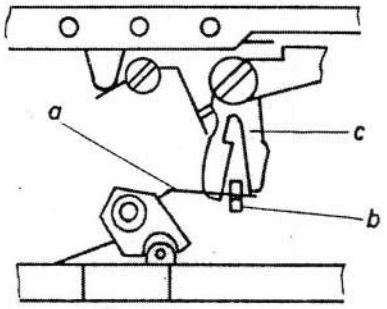


Figure 5

later ← → *earlier*

When mounting the mirror box in the camera body, adjust the release so that the shutter does not release until the locking lever 148 has fully engaged the upper shutter wheel 186. Adjust by bending the release lever **a**.

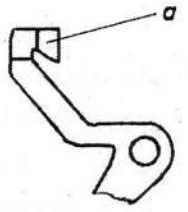


Figure 6

Mirror box without return mirror

For cameras without return mirror, the tensioning lever 61 and the shaft screw Figure 3 f. are omitted. Adjust the release as for the mirror box with return mirror.

Mirror box with delay

With delay, i.e. the shutter is only released when the mirror **b** is 1-2 mm in front of the foam rubber strip **a**.

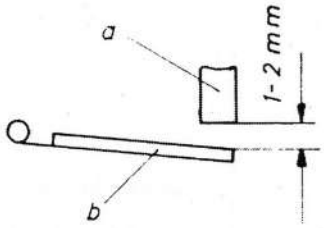


Figure 7

If the mirror does not release the shutter, lock the locking lever **a** in hole **b** and adjust it by bending the leg **a** until the mirror releases about 2 mm before the foam rubber strip.

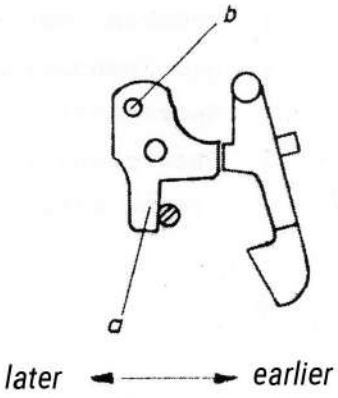


Figure 8

When fitting a new return lever **a** or tension lever **b**, make sure that the leg spring **c** comes behind the tension lever **b** and pushes it forward.

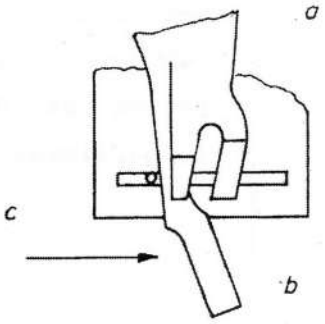


Figure 9

Shutter
Shutter speeds
1/8 or 1/10 to 1 sec.
Sheet 1

Slow shutter speeds

The slow shutter speeds of 1/8 or 1/10 to 1 sec. are adjusted as follows.

By adjusting the dial **a**, the shutter speeds are shortened or lengthened.

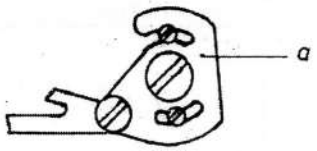


Figure 1

By adjusting the escapement **a**, loosen the lens screw **b**.

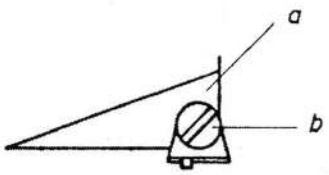


Figure 2

If the long shutter speeds remain stuck or are slow, remove the escapement and wash it out in petrol. Do not oil the escapement after washing it out.

Shutter
Shutter speeds
1/1000 - 1/30 and 1/25
respectively

Adjusting the shutter

There are two types of shutter, the coupled and the uncoupled shutter.

Coupled shutter, recognisable by the fact that at the setting 1/1000 and 1 sec. after cocking and releasing the shutter, the blinds run down closed.

Uncoupled shutter, recognisable by the fact that at the setting 1/1000 and 1 sec. after tensioning and releasing the shutter, the blinds open fully, as at the setting 1 sec. after tensioning and releasing.

Adjusting the shutter (coupled)

The times 1/1000 sec. can be adjusted by changing the tension or the slot width. The width of the slot is 1.4 mm. The slit width is checked by setting 1/1000 sec. and tensioning the shutter with a screwdriver on the control disc Figure 2. On cameras without the shutter speed 1/1000 sec. the slit width is 4.2 mm, when setting 1/500 sec. change the slit width by gluing under or shortening the 2nd shutter.

Shutter
Shutter speeds
1/1000 - 1/30 respectively 1/25

Adjusting the other shutter speeds

1/500 sec. by bending the nose **a** and 1/250 sec. by bending the nose **b** of the locking lever. The shutter speeds from 1/125 sec. do not change.

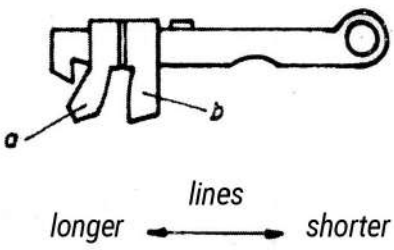


Figure 1

Adjusting the shutter (uncoupled).

Adjustment procedure as for the coupled shutter. The slot width is 1 mm.

When fitting a control disc, make sure that there is still 0.6 (+0.1mm) air between the control disc **a** and the locking lever **b** when tensioning the shutter and holding the winding lever in the end position.

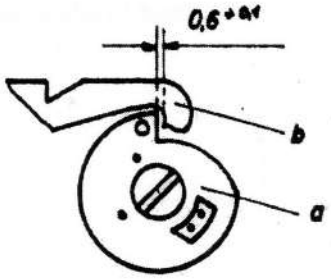


Figure 2

If the locking fork **a** does not engage correctly with the cocking lever **b**, the engagement surface **c** of the cocking wheel must be changed. Move the tensioning wheel by 1 tooth and file down the surface **c**.

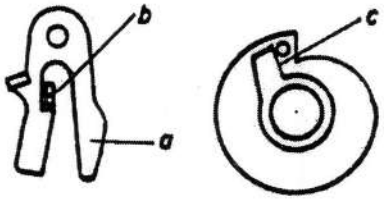
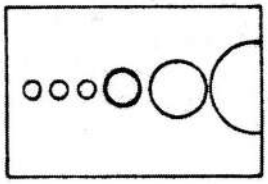


Figure 3

Shutter
Shutter speeds
1/1000 - 1/30 respectively 1/25

In the case of lateral overexposures, the shutter must be checked for uniformity. If the shutter speeds are correct, the fault is on the lens side. The aperture closes too slowly and a check is made as follows. The smallest aperture in the lens must be reached before the exposure is made.

Figure 4 shows the slow closing of the aperture.



Shutter sequence

Figure 4

When viewing with the lens, the smallest aperture must be reached at the right side of the film stage, at the end of the shutter speed 1/1000 sec.
If the shutter closes too slowly, the lens must be sent to the optical works concerned for repair.

Winder
Sheet 1

Adjusting the winding mechanism

If the shutter has expired, adjust the intermediate wheel **a** so that the locking lever **b** deflects and the transport wheel **c** is not blocked by turning the transport drum 230.
For blocking, see figure 3.

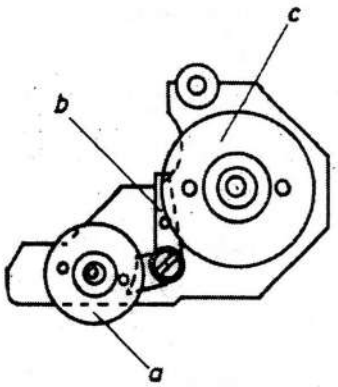


Figure 1

Fitting the winding flange

Tighten the shutter on the change-over knob 178 as far as it will go and hold it in place. Turn the transport drum 230 to the right as far as it will go, as well as the winding wheel 163. Then mount the winding lever 133 with the winding flange (Figure 6) so that the winding lever is in the end position.When the winding lever hits the stop in the end position, the pawl **d** must already be fully engaged in the winding wheel **c**.

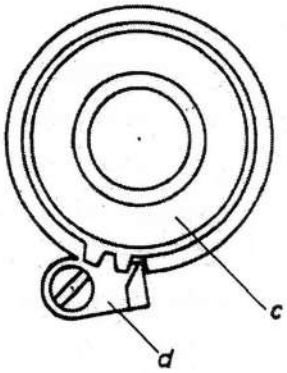


Figure 2

Hold the lift lever in the end position and check the space between the rivet of the transport wheel **a** and the ratchet lever **b** by pressing the transport drum back and forth. The space between **a + b** may be so large that the transport wheel moves by 1/4 tooth width towards the pawl **c**.

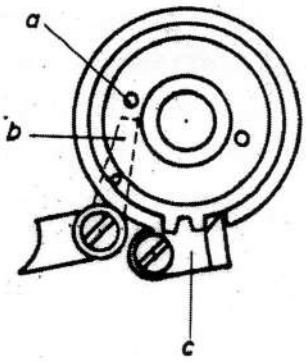


Figure 3

Reposition the winding lever with the winding flange fitted if the position of the winding lever is not correct and check the space between the transport wheel and the pawl, see figure 2. If too much space, file off stop rivets of intermediate wheel **a** and winding wheel **b**, but not more than 1/3 of the diameter.

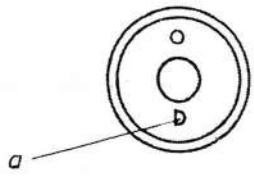
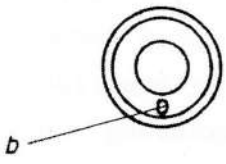


Figure 4



If the pawl of the winding flange does not engage when the winding lever is returned, file down the pawl **a**.

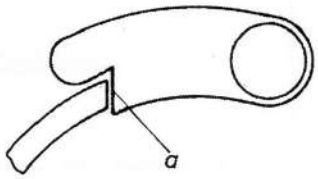


Figure 5

Fit the backstop. Check the engagement of the ratchet (figure 6) during tensioning and return. The ratchet must not jump over during tensioning until the pawl (Figure 2) is fully engaged in the last tooth of the transport wheel and the winding lever is pressed lightly against the stop.

If the ratchet does not jump over during tensioning, or if it jumps over too late, the last tooth of the winding flange **a** must be filed down a little. If the ratchet turns too early during tensioning, adjust the ratchet by bending the bearing angle **c**.

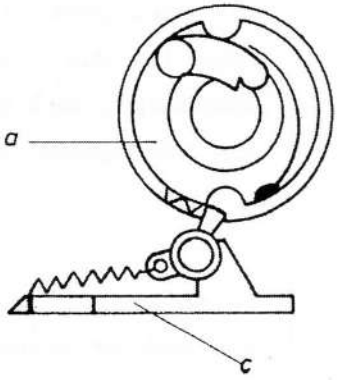


Figure 6

Mounting flange

In the current version of the fixing flange, the end nut **a** is omitted and a lock washer **b** is fitted instead. The winding lever has also changed, as have the countersunk screws, which have been replaced by cap screws.

When ordering a winding lever or a lift flange, please pay attention to this.

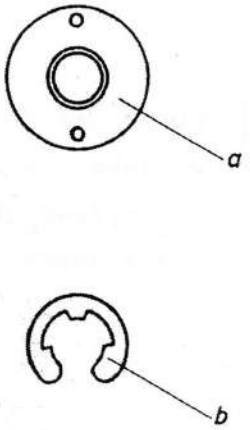


Figure 7

Synchronisation M + X contact.

On a camera with the mirror box removed, the M + X contact are set as follows:

M contact:

Check 1/30 sec. and B - position. Check flash nipple for fit and tightness. Loosen 2 threaded pins of the contact sleeve **a** and unscrew the third completely. Check that the contact moves easily.

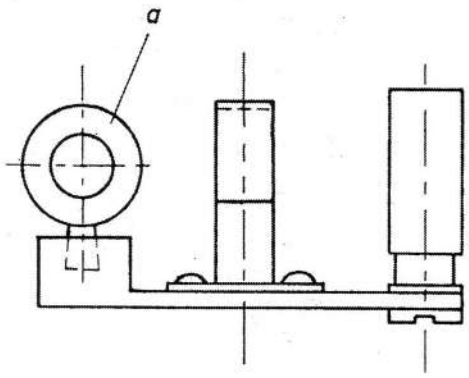


Figure 1

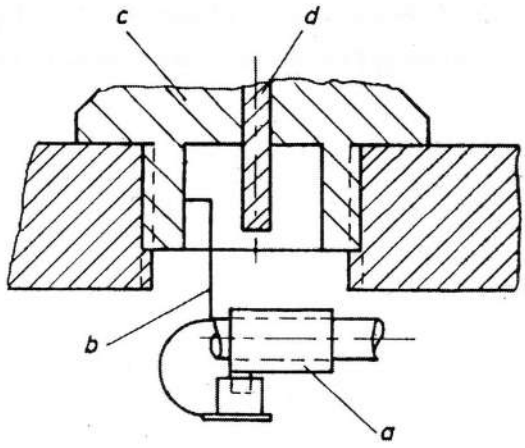
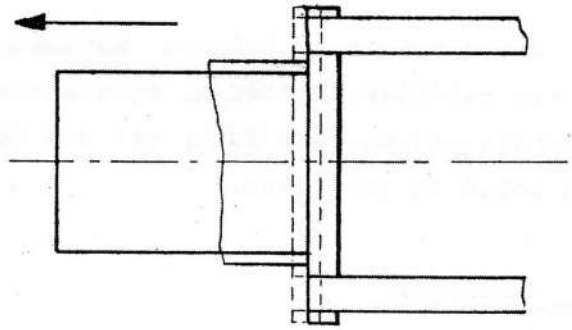


Figure 2

Pull the spring from the M-contact **b** as far as possible into the flash socket **c** to avoid jamming the inner edge of the flash socket or the threads.
Lift the contact and place the spring in the middle of the flash socket pin **d**. Set contact socket **a** for coarse adjustment, as in figure 1. Adjust the length of the contact by bending the contact spring **b** and the flashing socket pin **d**.

Synchronisation
Sheet 1



Place the film stage and adjust the contact point according to the film stage. See figure 3 for contact point and duration. Contact length approx. half a rod width.

Figure 3

Adjust the contact point with the contact sleeve (figure 1). Tighten 2 threaded pins, put locking varnish in the hole for the third threaded pin, screw in threaded pin and secure all threaded pins with varnish. Check roller blind run-off, reduce contact if necessary, but not below 1/3 rod width.

X-contact

Loosen 2 threaded pins of the contact sleeve **a** and remove the third. Make sure that the contact **b** moves easily.

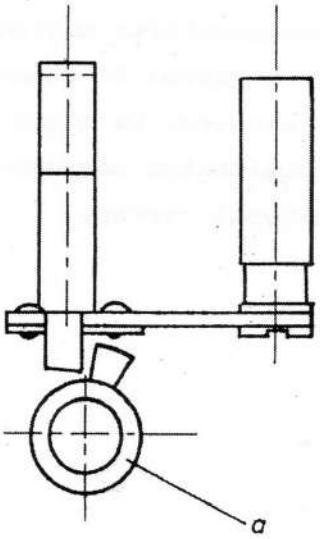


Figure 4

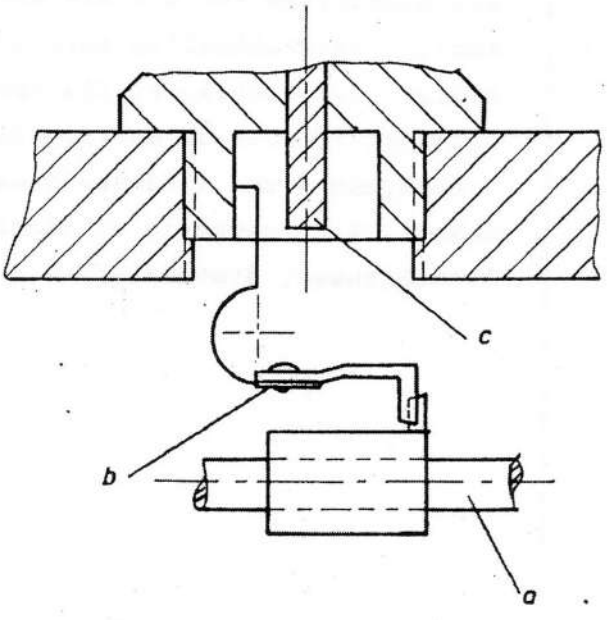


Figure 5

Bring contact sleeve to coarse adjustment as in figure 4. Contact should be made at the earliest 0.5 mm before the beginning of the image section **a**, at the latest at the beginning, calculated from the beginning of the rollo rod. Adjust the timing of the contact with the contact sleeve, figure 4.

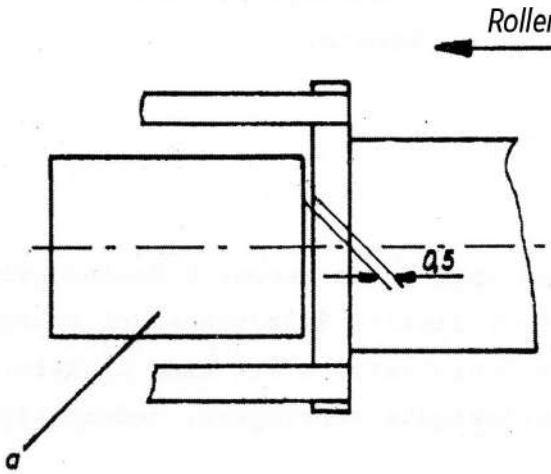


Figure 6

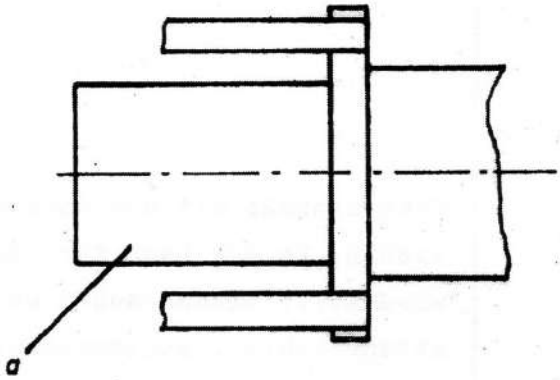


Figure 7

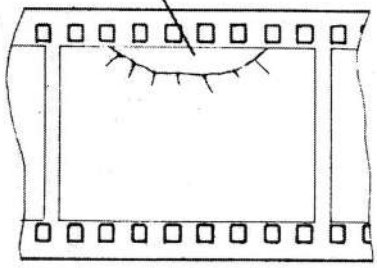
No contact length is prescribed for the X-contact, just make sure that the contact is good. If the roller blind is too heavy, the contact length must be reduced by lifting the contact and bending away the flash bushing pin (figure 5 c). If the contact flashes when the camera is pulled up quickly, adjust it a little lower or reduce the contact length. Tighten 2 set screws, put locking lacquer in the hole for the third set screw, screw in the set screw and secure all set screws with lacquer. To be able to replace an M or X contact, the mirror box must be removed and the flash sockets, symbol board and leather must be removed.

Eliminate the incidence of light by gluing in a cover strip.

To eliminate the existing incidence of light, see figure 1, a cover strip, see figure 2, is required.

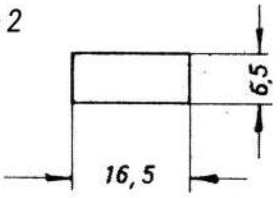
Existing light incidence in the camera "above

Figure 1



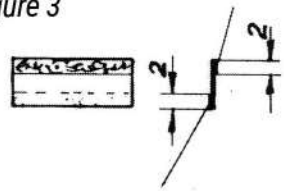
Cover strip made of rubber blanket

Figure 2



Adhesive surface 1

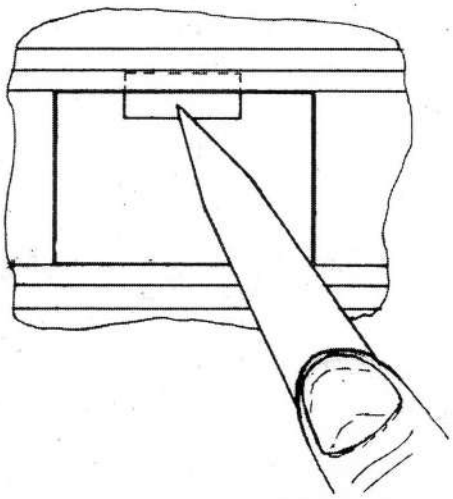
Figure 3



rubberised side with adhesive surface II

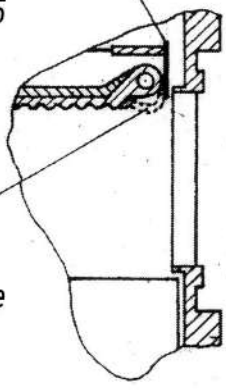
The cloth coated with glue, see figure 3, is pushed under the existing cloth in the area of the torsion springs when the camera is released and pressed on. Then press the adhesive surface 2 onto the previously roughened flap, taking care that no adhesive mass gets onto the torsion springs, see figures 4 and 5.

Figure 4 *Inserting the cover strip*



Existing cloth

Figure 5



Cover strip glued in place